

phius, Amsterdam, 1705, p. 61) states that the animal crawls sometimes into the hoop nets set for fish or "bobbbers." For a long time I have been unable to discover the meaning of the word "bobbbers." It occurs in no Dutch dictionary. I inquired from several Dutch friends without success, and an appeal to *Notes and Queries* was similarly without result. On visiting Leiden this summer I asked again about the word, and my friend, Prof. Serrurier, promised to find out about it for me. He now writes that "bobber" is a Dutch mutilation of the Malay word *boeboe*, meaning a hoop-net, so that Rumphius merely adds the Malay term for the hoop-net to his statement, and does not mention some other kind of trap besides this, in which nautilus is to be caught as I had expected. This matter may seem scarcely worth troubling the readers of *NATURE* with, but Nautilus is so important a form, so little is known about its habits, and naturalists so eagerly look forward to the day when it shall be caught somewhere in numbers, and its developmental history worked out, that every statement as to possible modes of trapping it is of importance. It is just possible that suitably baited lobster pots or hoop-nets, used in depths of 100 fathoms or thereabouts, might be found efficacious.

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### PROFESSOR HAECKEL IN CEYLON<sup>1</sup>

V.

THE long account of his six week's stay in Belligam (or Bella Gemma, "schöner Edelstein" as, in defiance of etymology he delights to call it) contributed by Professor Haeckel to the September number of the *Deutsche Rundschau* will be disappointing only to those who imagine that the theoretical and scientific results of such a visit can be analysed, combined and presented to the public within the compass of an article and in a sufficiently popular form to interest the readers of a magazine devoted to general literature.

All, whether scientific or not, will find interest in the graphic and spirited account of Belligam, its Rest-House, its inhabitants, and the surrounding nature, animate and inanimate, which is here presented to us. The Rest-House keeper with an unpronounceable Singhalese name Prof. Haeckel christened "Socrates," from his striking resemblance to the bust of that great philosopher, heightened by the sententious maxims with which he flavoured his somewhat long-winded discourses. The Professor's devoted attendant, a handsome Rodiya boy, whose Singhalese name, Gama-Meda, was classicised by him into "Ganymede," is described in detail with an affection that rises into poetical fervour. The picture presented by this poor outcast, the springs of whose heart were first opened by the kind-hearted foreigner whom it became the delight of his life to serve, is charming. "Who so happy as Ganymede when summoned for an expedition to the woods or the shore for painting and collecting, hunting and shooting? When, on such occasions, I allowed him to carry the paint-box or the photographic camera, or to sling the gun or the botanical case over his shoulder, he would stride after me, his face aglow with delight, looking proudly around on the wondering villagers, to whom such favour shown to a Rodiya was utterly incomprehensible.

"To Ganymede's unwearied skill and zeal I owe the most highly prized objects of my collection. With the sharp eye, the cunning hand, and the flexible agility of all Singhalese youths, he could catch the fish as it swam, the butterfly as it flew, and would bound into the thickest jungle, or climb the loftiest trees like a cat, in search of the prey that had fallen to my gun."

Another pleasant figure, standing out sharp and clear among Professor Haeckel's memories of Belligam, is that of the second chief, or headman of the village, the Arachy Abayawira. His superior character and acquirements were known to the government agent of the southern province, who had given the Professor a special introduction to him.

"I found the Arachy," he says, "an unusually intelligent and enlightened man, of about forty years of age, with a circle of interests and an amount of knowledge far beyond those of his fellow-countrymen in general. The prevailing stupidity, laziness, and indifference of the Singhalese gave place in him to a lively interest in education, and a genuine wish to extend its advantages to all within the range of his influence. He spoke English fairly well, and expressed himself with a natural good sense, and a clearness of judgment which often surprised me.

"Indeed, the Arachy might claim the title of a philosopher, in a higher sense than that of old Socrates at the Rest House, and I recall with lively pleasure our many and earnest conversations on subjects the most varied and comprehensive. He was free from the superstition and fear of evil spirits which universally prevail among his Buddhist fellow-countrymen, and with open eyes for the wonders of Nature and their explanation by natural laws; he had worked his own way to the position of a free-thinker, prepared to receive with delight the explanations of many of the riddles of Nature which my better knowledge enabled me to give him. I seem to see him still, a fine, dignified, bronze-coloured figure, with regular expressive features, and an eye that lighted up with intelligence as I instructed him on some of the phenomena of Nature; and I seem still to hear his gentle, vibrating voice, as he modestly and respectfully asked my explanation of this or that problem which had puzzled him. The highest and most amiable qualities of the Singhalese national character, a gentle and impressionable temper, and a natural intelligence were developed in the Arachy in the most attractive degree; and when, looking back, I seek to repeople my verdant Paradise with the slender bronze figures of its inhabitants, the images of the Arachy and Ganymede rise before me as their ideal types."

The section of his article headed by the Professor "A Zoological Laboratory in Ceylon," will be read by his fellow collectors, and, indeed, by all who appreciate perseverance in spite of obstacles, and entire devotion to a scientific object, with feelings of lively sympathy mingled with admiration. The difficulties arising from want of furniture and appliances, from the absence of all skilled assistance, from destructive insects, and above all, from the climate of Ceylon, were such as would have daunted any less ardent believer in the cause for which he laboured. We wish that we had space to extract at length for the benefit of youthful experimenters the Professor's account of his improvised tables, cabinets, and shelves, and of the semi-despairing resignation with which, after a long day's collecting, he would empty the contents of his jars and glasses to find nine-tenths of his treasures dead before their time from the heat and moisture of the air, and useless as specimens. Another infliction which he seems to have borne with admirable patience consisted in the intrusive curiosity of the natives, who crowded uninvited into his work-room, or thronged round him on his return from a fishing expedition, often causing him to lose the precious minutes which would have saved some of his half dead specimens. The Arachy's explanation that all the white sand and queer little fishes contained in the glasses and jars were to be used to increase knowledge in the world was received with derision by the villagers, the more simple of whom believed that the stranger was inventing a new dish of curry, while the wise-heads looked upon him as a European madman. The want of glass windows was another serious drawback to the preservation of the collection when once safely housed. The green wooden jalousies, which are universal in Ceylon, kept the room too dark for work with the microscope, while admitting an amount of wind and dust (not to mention the more serious incursion of hosts of insects) very detrimental to the specimens and instruments. All these hindrances and others notwithstanding, Prof. Haeckel

<sup>1</sup> Continued from p. 300.

amassed at Belligam materials for the study of a life-time, and even obtained some consolation from finding confirmation of the fact which has recently been strikingly demonstrated by the *Challenger* expedition, namely, that life does not exist in anything like the same diversity of form in different oceans as on different continents; and that in essential features the marine fauna of one tropical coast differs very little from that of another. The account which Prof. Haeckel gives at some length of the daily routine of his life in Belligam is interesting. The Professor begins by congratulating himself on this accident of position as affording him twelve clear working hours in the day.

"I rose," he says, "regularly before the sun, and had enjoyed my first morning bath by the time he showed himself from behind the palm-woods of Cape Mirissa, exactly opposite my Rest-House. As I stepped on to the verandah to enjoy the sudden awakening of the glorious day, I was sure of finding Ganymede with an open cocoa-nut of sweet, cool milk, than which there could be no more refreshing morning drink. William, in the meantime, was shaking my clothes free from the millipeds, scorpions, and other insects, which had crawled into their folds during the night. Then came Socrates and served me with tea, accompanied by a bunch of banana fruit and the maize bread of the country. My usual beverage, coffee, is, strange to say, so bad in Ceylon as to be undrinkable, principally because the extreme moisture of the climate prevents the berry from drying properly.

"At seven o'clock my boatmen appeared to carry down my nets and glasses for the daily canoe expedition. This lasted from two to three hours, and on my return I busied myself in disposing my captures in glasses of different sizes, and saving such as could be saved among the few survivors. The more important specimens were microscoped and drawn at once. Then I had my second bath, and at eleven o'clock appeared my so-called 'breakfast,' consisting chiefly of curry and rice. The rice was simply boiled, but in the preparation of the curry my old cook, Babua, exerted all the ingenuity with which nature had endowed his diminutive brain to present me with a fresh combination every day. Sometimes the curry was 'sweet,' sometimes 'hot;' sometimes it appeared as an undefinable *mixtum compositum* of vegetables, sometimes as a preparation of the flesh of various animals. Babua seemed to divine that as a zoologist I was interested in every class of animal life, and that he could not do better than turn my curry into a sort of daily zoological problem. . . . He was apparently a staunch upholder of the theory of the near relationship of birds and reptiles, and held it to be immaterial what particular species of *Saurian* were prepared for the table.

"Fortunately for my European prejudices, I only became acquainted by degrees with the zoological variety of my daily dish of curry; usually not until I had swallowed a considerable portion of it in silent resignation. . . . My great resource as an article of diet was the fruit which abounded at every meal and made up for all that I suffered from Babua's curries. Next to the bananas of every variety, of which I consumed several at every meal, my standing dessert consisted of mangoes (*Mangifera indica*), egg-shaped green fruit, from three to six inches long; their cream-like golden pulp has a faint but distinct aroma of turpentine. The fruit of the passion-flower (*passiflora*) was very pleasant to my taste, reminding me of the gooseberry. I was less pleased with the renowned custard-apple, the scaly fruit of the *Annona squamosa*, and with the Indian almond, the hard nut of the *Terminalia catappa*. There are singularly few apples and oranges in Ceylon; the latter remain green, and are sour and not juicy; but the want of cultivation is doubtless chiefly answerable for the inferiority of this and other fruits; the Singhalese are far too easy-going to make any progress in horticulture. Refreshed with my modest repast, I em-

ployed the hot hours of mid-day—from twelve to four o'clock—in anatomical or microscopic work, in making observations and drawings, and in the preservation and storing of my collected objects. The evening hours, from four to six o'clock, were generally occupied with some lovely country excursion; sometimes I made a water-colour sketch, sometimes I sought to perpetuate one of the beautiful views in photography. Now and then I shot apes and birds in the woods, or collected insects and snails, or hunted among the coral reefs on the shore, adding many curious objects to my collection. Richly laden, I return to the Rest House an hour or less before sunset, and worked for another hour at the preservation and arrangement of my specimens. At eight o'clock, my second chief meal, or dinner, was served. The *pièce de résistance* at this was again the inevitable curry and rice, followed sometimes by a fish or a crab, which I enjoyed immensely, and then by some dish composed of eggs or meal, and finishing again with delicious fruit. . . . The important question of 'what to drink,' seemed likely at first to prove a difficult one. The ordinary drinking water of the lowlands of Ceylon is considered very bad and unwholesome, the highlands, on the contrary, being rich in springs of the purest and freshest water. The great rains which fall daily on the island bring down a mass of mineral and vegetable deposit into the rivers and the stagnant water of the lagoons is not unfrequently in communication with them. It is not customary to drink the water unless boiled or made into tea, or with the addition of claret or whisky. My friend Scott had given me an abundant supply of the last-named beverage, but on the whole, I found no drink so pleasant and refreshing as well as wholesome, as the fresh milk of the cocoa-nut.

"My frugal dinner at an end, I usually took a solitary walk on the shore, or delighted my eyes with the sight of the illumination of the palm woods by myriads of fire-flies and glow-worms. Then I made a few entries in my note-book, or tried to read by the light of a cocoa-nut oil lamp. But I was generally quite tired enough to go to bed soon after nine o'clock, after another careful shaking of the clothes for the expulsion of scorpions and millipeds.

"The great black scorpion (nearly a foot long) is so common in Ceylon that I once collected half a dozen in the course of an hour. Snakes exist also in great numbers. Slender green tree-snakes hang from almost every bough, and at night the great rat-snake (*Coryphodon Blumenbachii*) hunts rats and mice over the roofs of the huts. Although they are harmless and their bite not poisonous, it is by no means a pleasant surprise when one of these rat-snakes, five feet long, suddenly drops through a hole in the roof into one's room, occasionally alighting on the bed.

"On the whole, however, my nights in Belligam were but little disturbed by animal intruders, although I was often kept awake by the howling of jackals and the uncanny cry of the Devil-bird (a kind of owl, *Syrnium Indrami*) and other night-birds. The bell-like cry of the pretty little tree-frogs which make their dwelling in the cups of large flowers, acted rather as a slumber song. But I was far oftener kept awake by the whirl of my own thoughts, by the recollection of the many events of the past day, and the anticipation of that which was to come. A brilliant succession of lovely scenes, of interesting observations and varied experiences mingled in my brain with plans of fresh enterprise and new discoveries for the morrow."

#### A SOLAR PRINTING PRESS

IT was mentioned in a recent number of this journal that a printing press worked by solar heat had been exhibited in the Tuileries Garden in Paris on the occasion of a *fête*. We are enabled to give some particulars